

LIBRARY BOOKSTACK EQUIPMENT

H. C. PARKER, INC.

OFFICE, SCHOOL and LIBRARY SUPPLIES

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planning your library

Virginia Metal Products, Inc. maintains a complete staff of engineers, trained in the technical aspect of the bookstack and its relation to the functional working of the library as a whole. This planning service . . . backed by many years of experience in bookstack fabrication . . . is offered to the architect and owner, without charge. It is most desirable to use the engineering facilities of Virginia Metal Products in the very early stages of planning. This saves the architect

or owner duplicating development work already performed successfully by others.

For example, the important question whether to have multi-tier or free standing bookstacks must be decided before one can even begin to plan the building. Virginia Metal Products, Inc., assisting in preparing preliminary plans, specifications and estimates, will help to decide this issue. Substantial savings in construction costs are often the result.

multi-tier and free standing stacks

Bracket Type: The bracket stack consists of tubular steel columns with slotted holes spaced one inch apart, on which the adjustable shelves are hung in a cantilever fashion. This is the most efficient and economical solution to the problem of providing storage for books.

The steel columns used to support the adjustable shelves are also used to support the multi-tier stack . . . including the intermediate concrete or steel floors commonly called decks . . . and often the roof of the stack areas.

Free Standing: Bracket stacks are also divided into two general types, free standing and top braced. Free standing stacks are rigidly constructed and may be erected anywhere without fastening to the floor or adjacent walls. A fixed bottom shelf with kick plates recessed for toe room is used to gain rigidity and to prevent dust settling underneath the bookstack compartments.

Top Braced: The top braced stack is fastened to the floor, and channel members across the top of the columns are used in both directions to secure proper rigidity. All shelves are adjustable. The fixed bottom shelf and kick plates are omitted. This type of bookstack is slightly more economical in cost.

Steel ends and top cover plates may be attached to the bracket type bookstack to add attractiveness.

panel type or sheet steel stacks

The panel type or sheet steel or standard stack as it is often called, is slightly higher in cost but offers the most refined appearance. The shelves are supported on all four corners by full width and height hollow metal panel uprights. The six rows of adjustable shelves are adjustable at $\frac{5}{8}$ inch intervals. A fixed bottom shelf forms a dust-proof base 4 inches high. The top of each compartment is covered with a formed steel plate.

The panel type bookstack is also used in multi-tier bookstack construction. The structural columns are concealed in the uprights.

shelves

Virginia Metal Products, Inc. is the only manufacturer currently fabricating both the solid plate and "U-Bar" or "Open Bar" type shelves.

The U-Bars are made of steel coil stock, rolled to gently curved top surfaces to prevent any damage to the books. The bars are permanently spaced with steel dowells which, when assembled, make the strongest and lightest weight shelf possible. The brackets on all shelves are hinged to permit the owner, when required, to store the shelves flat and eliminate completely the possibility of mislaying loose brackets.

The U-Bar permits air to circulate through the compartments, which helps to prevent mould and dry rot.

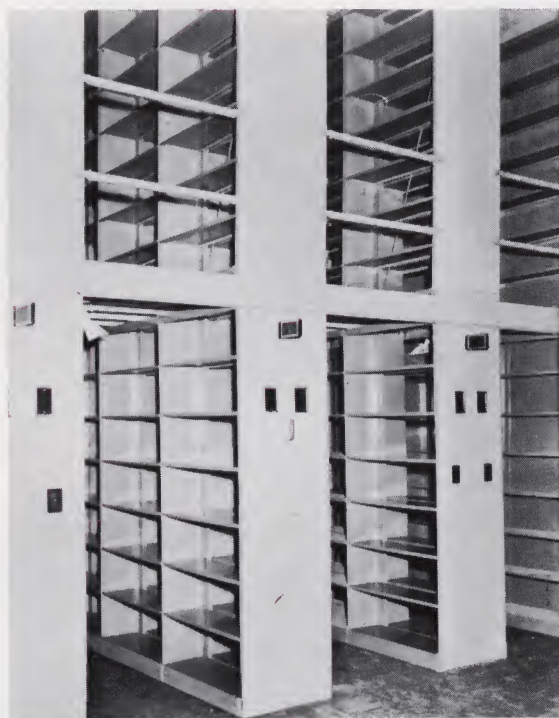
One desirable feature of the "U-Bar" shelf is that the "T-Lock" book support may be securely engaged between the bars in the conventional manner or inserted between the bars of the shelf above to take care of the over-sized books. This largely eliminates the necessity of the owner's having to purchase varied sized book supports.



free-standing
stack—open
end

Hinged adjustable
U-Bar or solid plate
shelves. Closed ends
also available.

fig. 1



VMP panel type bookstacks

Available with either U-Bar or Solid plate shelves adjustable on $\frac{5}{8}$ " centers for flexibility. The panel type stack presents especially fine modern flush appearance. Vertical dividers support shelves and top.

fig. 2



fig. 3

single and double face bracket shelves

VMP low cost hinged bracket shelves do not warp or sag. Made of steel, and factory finished with durable baked enamel. Hinged brackets fold for easy storage . . . do not require bolts or screws for assembly and installation.

VMP FINISH

The unexcelled finish on VMP Bookstacks is factory-applied to properly degreased, clean and dry metal surfaces. This finish consists of one coat of rust-resisting and corrosion-inhibiting Vinylite Wash Primer; one coat of baked-on primer surfacer; and one coat of Alkyd Urea Enamel baked on at 300° F.

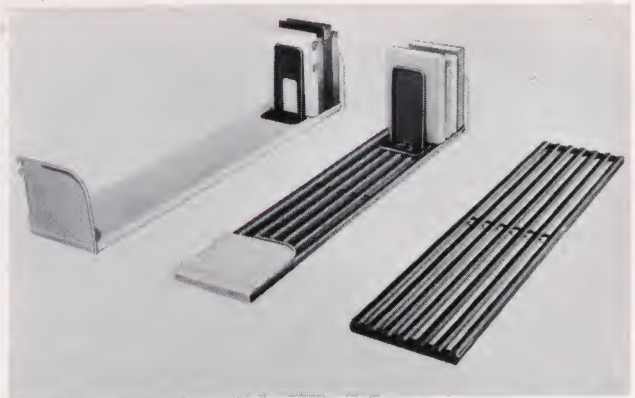


fig. 4

solid and U-bar shelves

VMP solid and U-bar shelves are hinged shelves which permit maximum economy of space in storing unused sections. Rigid book supports can be attached above and below the U-bar shelf. U-bar shelves are also available for panel type and cast iron stacks.

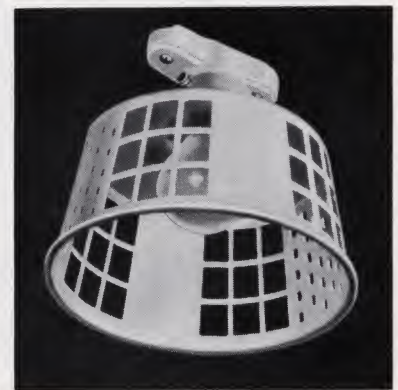


fig. 5

stack light

Standard VMP Aluminum Stack Luminaire is designed to eliminate bright spots at top of stack and to lighten dark areas at bottom of the aisles. Fits any standard porcelain receptacle with shade-holder groove.

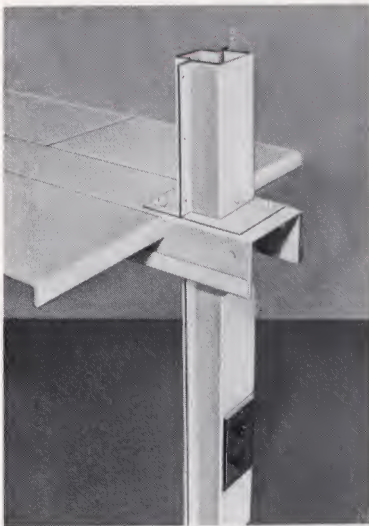


fig. 6

multi-tier steel deck

(Before floor covering has been installed.) Easy to install in existing buildings. Saves 32 pounds per sq. ft. on column loading in multi-tier construction.

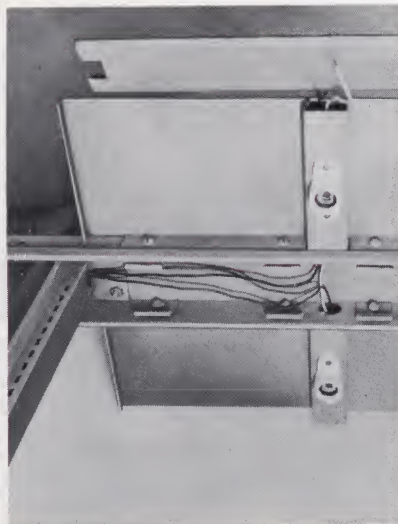


fig. 7

wire raceway, multi-tier steel deck

Photograph above shows wire raceway in under side of multi-tier steel deck. Underwriters' approved raceway-cover shown, but not in place.

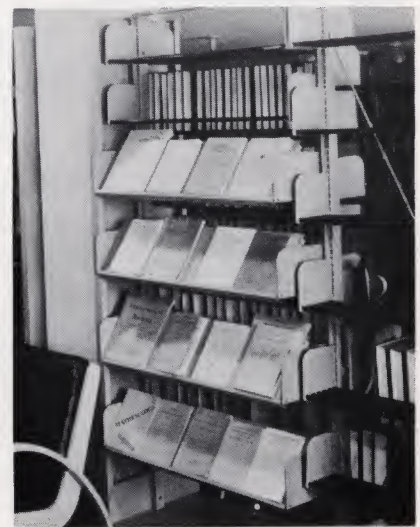


fig. 8

tilting shelf

For periodicals reference. Interchangeable with standard bracket shelf. Can be used as reference shelf in stack area.

bracket carrels

More and more libraries are abandoning the "closed stack" and opening the stack room to the readers as well as the research worker. Economical privacy can be obtained by using carrel desks and partitions. The desks illustrated below are adjustable and can be removed to be reused in any part of the stack area, as the standard carrel desk will fit in any standard book-stack compartment. Steel panels may be installed between the bookstack columns and may be extended to floor and ceiling or left open, top and bottom for ventilation.

Multiple occupancy of an assigned carrel is effected by the lockable compartments illustrated in the center photograph. The assigned users are given keys (master-keyed to the librarian's key system), which enables them to keep their own material in their own compart-

ments and under lock and key. More compartments are available than shown, if required.

The carrel desks are furnished with or without drawers as desired. The desk itself is generally 18 to 24 inches in depth and approximately 36 inches wide. The height from the floor can be readily adjusted, but the average height is 30 inches.

The steel desk top is covered with linoleum, preferably of a light color to avoid drastic contrast between the linoleum and the material used by the reader. Aluminum or stainless steel nosing is used on all four edges of the desk for protection and trim.

The free standing carrel illustrated on Page 5, is a complete unit that is self-supporting, is not attached to the floor or walls and can be shifted from place to place as readily as a piece of furniture.



fig. 9

work desks

Work desks attach to bracket columns. Can be moved to any compartment of same size. Linoleum top 18" to 24" widths.



fig. 10

bracket carrel

Bracket carrel partition and desk. Desk available with drawers, either adjustable or fixed in height 18" to 24" deep with linoleum top. Locked compartments provide for dual privacy.



fig. 11

free standing study carrel units

Set up anywhere. Modern, flush, attractive appearance. Linoleum desk top, furnished with or without drawer. Note lockable compartment for storage of typewriter.

vertical filing system

You can gain as much as 90% in capacity by using VMP's vertical filing system instead of conventional filing methods. In comparison with four-drawer filing cabinets, a 42% gain in filing space may be obtained at about one-half the cost of the filing cabinet . . . and this saving in floor space results in more economical building construction.

VMP Design Engineers have long been interested in the problem of vertical storage, not only of unbound books and manuscripts or papers filed in Manila envelopes, but of all types of file records. Photograph at the right shows the development and adaptation of VMP Bookstack Equipment to the problem of record storage. Five steel dividers are furnished for each shelf to prevent the material from packing.



fig. 12

free standing carrel units



fig. 13

mobilwall seminar or carrel rooms
 These insulated steel partitions can be taken down and re-erected. This closed carrel gives the maximum privacy.

multi-tier stacks • open end



fig. 14

multi-tier stack — closed ends



fig. 15

VMP *book conveyor*

function

The VMP Book Conveyor is used to bring material from the bookstack to the delivery desk or desks. At the same time books may be returned to the individual stack tiers where the material is unloaded automatically. The conveyor runs both horizontally and vertically (but in one plane only) and may serve as many stations as required. It is designed to bring the books to the reader rapidly and efficiently. It virtually eliminates the necessity of attendants or pages having to use the stairs or elevators to get the books.

construction

The VMP Conveyor uses an endless single chain to which cars or carriers are attached at approximately eight foot intervals. The carriers generally have a closed back and sides but open at the front to allow for the loading or unloading or "combing off" of books. An electric motor drives the chain. All other operating devices are mechanical... no complicated electronic controls to get out of order and require specialists to repair them.

operation

The VMP Conveyor is generally operated continuously during the working hours of the library at a speed of approximately 60 feet a minute. The power consumed is negligible... about the same amount as used by five or six 100-watt bulbs. Safeguards automatically stop the conveyor if over-loaded or if any obstacle encroaches in the shaft. Operation is quiet and unless grossly misused the conveyor will work without interruption. Occasional inspection and oiling are all that is required.

The principle of the conveyor is basic and can be adapted to suit particular requirements. VMP Conveyors are also used in hospitals, office buildings, factories and department stores. They are widely used to transmit mail, drawings, documents, and small packages in famous buildings like Lever House, Vanderbilt Clinic and the Pan American Insurance Company.

If interested, please write for more specific information contained in catalog entitled "VMP Conveyor."

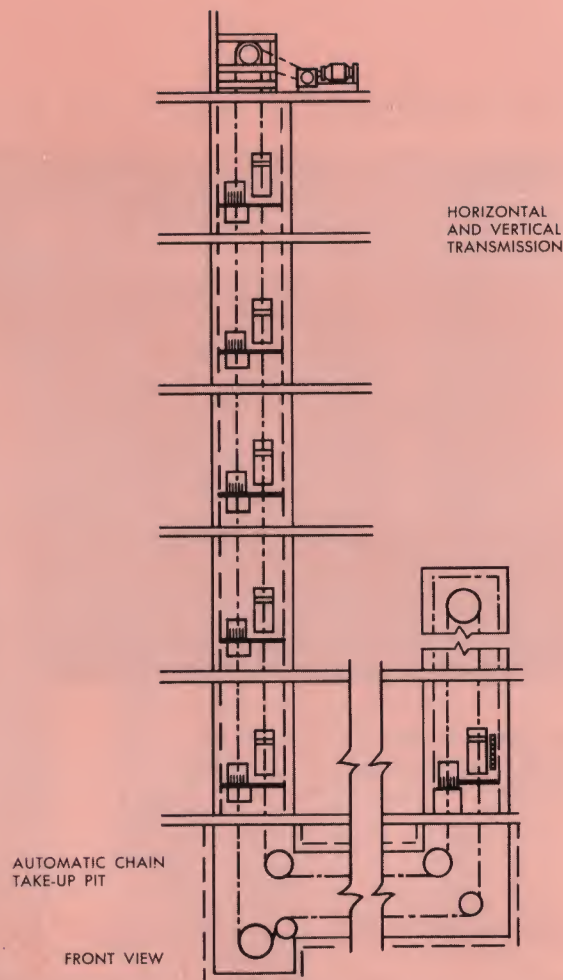
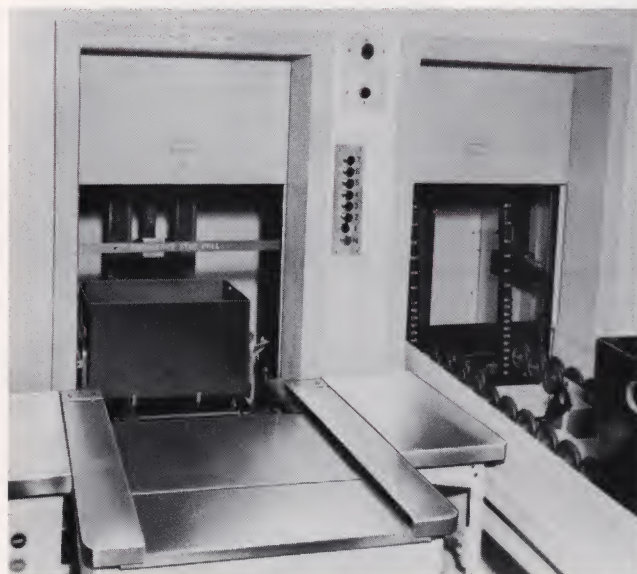


fig. 16



VMP conveyor

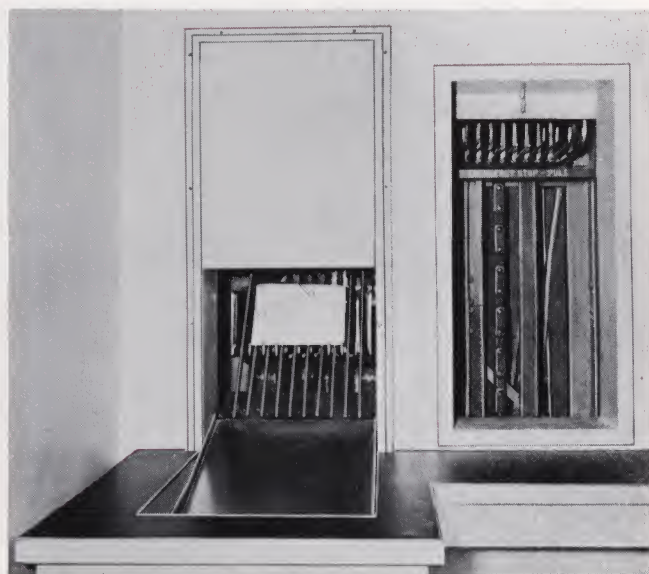


Illustration above shows main station with automatic loading and unloading device. Typical station is shown at right. Conveyors can be arranged so that: (1) Books can be sent from main station to any stack level. (2) Books can be returned from any stack level to main station. (3) Books can be sent from main station to each stack level, returned to main station and from any stack level to another stack level.

planning data · shelf and stack

width and capacity of shelves

No definite rules can be laid down regarding the width of shelves required, as much depends on the method of classification, space available and use to which the library is put. Where economy and compactness of storage are important, 8-inch shelving is recommended for bookstacks in general. Most books are 6 in. or less in depth; and it is well to bear in mind that waste space behind books collects dirt, while the same space added to the width of the aisles becomes valuable.

The number of volumes that can be stored per lineal foot of shelving depends on the character of the books. The following table has been prepared by averaging the data collected from various general and special libraries. For convenience in computing the amount of stack necessary, the capacity is based on stacks 7½ ft. high with seven rows of shelves in the height.

The figures below are for solidly packed books without any allowance for working space or expansion.

for double-faced ranges multiply by two

KIND OF BOOKS	Vols. per ft. of shelf	Vols. per lin. ft. of single-faced range	Vols. per 3 ft. of single-faced range	Recommended width of shelves
Circulating.....	8	56	168	8 in.
Fiction.....	8	56	168	8 in.
Economics.....	8	56	168	8 in.
General Literature.....	7	49	147	8 in.
Reference.....	7	49	147	8-10 in.
History.....	7	49	147	8 in.
Technical and Scientific.....	6	42	126	8-10 in.
Medical.....	5	35	105	8-10 in.
Law.....	4	28	84	8 in.
Public Documents.....	5	35	105	8 in.
Bound Periodicals.....	5	35	105	10-12 in.
U. S. Patent Specifications 2 (144 vols.) per year....	2	14	42	8 in.

unit stack weights

books

25 lbs. per cubic foot of ranges.

stack construction

8 lbs. per cubic foot of ranges.

steel floor framing

4 lbs. per sq. ft. of gross deck area.

deck flooring

3½ in. reinforced concrete slab, 44 lbs. per sq. ft. gross area. Flanged steel plate floor, 9 lbs. per sq. ft. of gross area. Note: Add for floor covering.

live loads

For column loads assume 40 lbs. per sq. ft. of aisle area for live load and reduce this figure 5% for each deck below the top deck.

standard dimensions for multi-tier installations

height

Generally 7 ft. 6 in., measuring from top surface of deck floor to top surface of next deck floor.

aisles

Main, 3 ft. to 4 ft. Range, 2 ft. 6 in. to 3 ft. clear.

ranges

Lengths, preferably not over 30 ft., in even multiples of shelf lengths. Depths, single-faced 8, 9, 10 and 12 in. for books, 18 and 22 in. for newspapers; double-faced 16 to 25 in. for books, 37 and 46 in. for newspapers.

shelves

Lengths, generally 3 ft., not to exceed 3 ft. 6 in.; depths, 8, 9, 10 and 12 in. for books, 18 and 22 in. for newspapers.

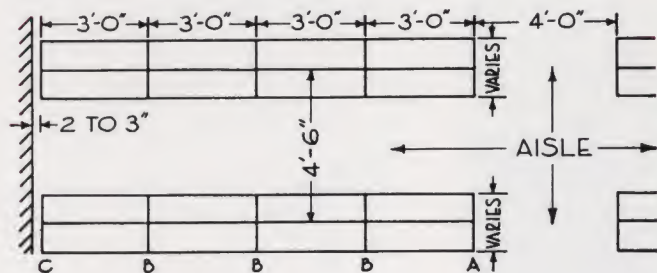
stairs

Straight runs, well length, approximately 9 ft., 12 risers; width, 2 ft. 6 in. or slightly more. Return runs, well length, 6 ft. 8 in., 12 risers; width, 5 ft. or slightly more.

deck floor

Reinforced concrete slabs, 3½ in. thick without floor covering. Flanged steel plates, ⅛ to ⅜ in. thick. Floor covering, asphalt tile, rubber tile, linoleum, etc. Total thickness of deck floor for ordinary span, from top of slabs to bottom of supporting steel framing: Concrete, 3½ to 3¾ in.; steel, to bottom of flanges, about 2¾ in.

typical stack construction



STACK LOADS

Tiers	8 IN. SHELVING Including stacks, books, live load and 3½ in. concrete deck floor			10 IN. SHELVING Including stacks, books, live load and 3½ in. concrete deck floor		
	A	B	C	A	B	C
1	495	990	495	620	1240	620
2	2320	3000	1500	2570	4000	1750
3	4120	4990	2600	4490	6240	2870
4	5890	6960	3590	6380	8460	3980
5	7630	8910	4570	8240	10660	5080
6	9340	10840	5540	10070	12840	6170
7	11020	12750	6500	11870	15000	7250
8	12670	14640	7450	13640	17140	8320
9	14290	16510	8390	15380	19260	9480
10	15880	18360	9320	17090	21360	10530
11	17440	20190	10240	18770	23440	11570
12	18970	22000	11150	20420	25500	12600

A = typical aisle end support
B = typical intermediate support
C = typical wall end support

Partial list of VMP installations

University of Alabama Commerce Building Tuscaloosa, Alabama	University of Michigan Addition Ann Arbor, Michigan
University of Arizona Addition Tucson, Arizona	University of Mississippi Oxford, Mississippi
University of Arkansas Fine Arts Building Fayetteville, Arkansas	University of Nevada Reno, Nevada
University of Southern California Doheny Memorial Library Addition Los Angeles, California	College of the City of New York New York, New York
Trinity College Hartford, Connecticut	New York Public Library Donnell Building New York, New York
Supreme Court Building Addition Washington, D.C.	Wake Forest College Reynolda, North Carolina
University of Florida Addition Gainesville, Florida	Cincinnati Public Library Cincinnati, Ohio
University of Georgia Athens, Georgia	Ohio State University Main Library Addition Columbus, Ohio
Concordia Theological Seminary Springfield, Illinois	Oklahoma A and M College Stillwater, Oklahoma
De Pauw University Greencastle, Indiana	Pennsylvania State College Addition State College, Pennsylvania
Kansas State Teachers College Emporia, Kansas	University of South Carolina Law Library Columbia, South Carolina
The College of the Bible Lexington, Kentucky	Southwestern at Memphis Memphis, Tennessee
Notre Dame Seminary New Orleans, Louisiana	University of Houston Houston, Texas
University of Maine Addition Orono, Maine	Hollins College Hollins College, Virginia
University of Maryland Mathematics Building College Park, Maryland	Roanoke Public Library Roanoke, Virginia
Williams College Addition Williamstown, Massachusetts	University of West Virginia Morgantown, West Virginia
	Wisconsin State College River Falls, Wisconsin

VMP mobilwalls—VMP manufactures the most complete line of movable steel partitions, railings and bankscreens for office, factory, laboratory, hospital and school buildings. See VMP Mobilwall Catalog in Sweet's Architectural File (22a/Vi).

VMP doors and frames—Other VMP products are residential flush steel doors and frames, sliding bi-pass doors and frame units, and 1½ hour fire doors . . . also steel doors and frames for industrial and institutional buildings. Write for free catalog.

V

M

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VIRGINIA METAL PRODUCTS, INC.

Orange, Virginia

Partial list of VMP installations

University of Alabama
Commerce Building
Tuscaloosa, Alabama
University of Arizona Addition
Tucson, Arizona
University of Arkansas
Fine Arts Building
Fayetteville, Arkansas
University of Southern California

University of Michigan Addition
Ann Arbor, Michigan
University of Mississippi
Oxford, Mississippi
University of Nevada
Reno, Nevada
College of the City of New York
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